CLASSIFICATION SECRET

CENTRAL INTELLIGENCE AGENCY

REPORT

INFORMATION REPORT

CD NO. 25X1

COUNTRY East Germany

DATE DISTR. 24 February 1955

SUBJECT Manufacture of Special Resistances at VEB Werk fuer Bauelemente der Nachrichtentechnik "Carl von Ossietzky", Teltow

NO. OF PAGES 2

PLACE ACQUIRED

NO. OF ENCLS. (LISTED BELOW) 25X1

DATE OF INFO.

SUPPLEMENT TO REPORT NO.

25X1

THIS IS UNEVALUATED INFORMATION

1. VEB Werk fuer Bauelemente der Nachrichtentechnik (WBN) "Carl von Ossietzky" (formerly Dralowid), in Teltow, was manufacturing the following resistances in early October 1954 for special purposes:

25X1

a. Moss Draht-Drehwiderstaende. (Slide wire torsional resistances)

(1) Purpose. Used for capacity bridges, precision measurement bridges types "L" and "R", and for a number of other high-accuracy measurement devices.

(2) Technical data. These resistances are measurement potentiometers of four and eight watts. They are manufactured for all ohmic values in the range from 100 ohms to 25 kilo-ohms. The rotation angle of the potentiometer is 300 degrees. The linearity of plus or minus one percent of the total resistance is guaranteed at 260 degrees. The final resistance value has a tolerance of plus or minus five percent.

(3) Types. WBN manufactures resistances with linear regulating curve by mass production. Resistances with logarithmic regulation curve are manufactured in smaller numbers and only upon special orders.

b. Hoechstohmwiderstaende. (extra high ohm resistances)

(1) Purpose. Used for the construction of measurement devices in high-tension and telecommunications technology.

(2) Technical data. Because of the extreme sensitivity of these resistances with regard to atmospherical and electrical influences, they are melted into glass tubes which are evacuated to ten power minus three (10^{-3}) mm. Hg. The manufacture follows the line of the so-called colloid-coal procedure, i.e. a layer of colloid-coal is precipitated upon a ceramic body and then hardened. These resistances are manufactured in four types with different dimensions for values from ten power ten to ten power twelve (10^{10} to 10^{12}) ohms. The charges for the four types are 700, 800, 950 and 1,100 volts. The maximum ohmic value which WBN can reach with a tolerance of plus or minus 20 percent is ten power thirteen (10^{13}) volts.

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STATE	#X	NAVY	X	NSRB	DISTRIBUTION					
ARMY	#X	AIR	#X							

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c. Flaechenabsorber-Widerstaende. (Areal absorption resistance)

(1) Purpose. Used in U[redacted] technology.

(2) Technical data. Manufactured with the aid of the colloid-coal procedure. Colloid-coal is precipitated upon ceramic and upon Pertinax bodies. If Pertinax is used, the body must not exceed one millimeter in thickness. The resistances are manufactured for ohmic values between 100 and 1,000 ohms per square centimeter. The maximum charge is 0.2 watts per square centimeter for resista[redacted] tances with ceramic bo[redacted] various sizes and shap[redacted]

[redacted]

(1) Purpose. Used as construction component for smallest devices with small performance where larger types cannot be used due to lack of space.

(2) Technical data. Manufactured with the aid of the colloid-coal procedure. The resistance is provided with a protective layer of lacquer against exterior influences. Types with various sizes and resistance values are manufactured. The values range from 1 to 10 mega-ohms. The 0.1 resistance has the dimensions 12 by 2.4 mm; the 0.5 watt resistance has the dimensions 8 by 2.4 mm.

2. In addition to the special resistances mentioned above, which were being manufactured, WBN was developing a number of special precision resistances.

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CENTRAL INTELLIGENCE AGENCY REPORT

INFORMATION REPORT

CD NO. 25X1

COUNTRY [redacted] DATE DISTR 24 February 1955

SUBJECT Manufacture of Special Resistances at the [redacted] NO. OF PAGES 2 ILLEGIB
"Bauelemente der Nachrichtentechnik
"Carl von Ossietzky", Teltow

[redacted]

a. Mess-Draht-Drehwiderstaende. (slide wire torsional resistances)

(1) Purpose. Used for capacity bridges, precision measurement bridges types "L" and "R", and for a number of other high-accuracy measurement devices.

(2) Technical data. These resistances are measurement potentiometers of four and eight watts. They are manufactured for all ohmic values in the range from 100 ohms to 25 kilo-ohms. The rotation angle of the potentiometer is 300 degrees. The linearity of plus or minus one percent of the total resistance is guaranteed at 260 degrees. The final resistance value has a tolerance of plus or minus five percent.

(3) Types. WBN manufactures resistances with linear regulating curve by mass production. Resistances with logarithmic regulation curve are manufactured in small numbers and only upon special orders.

b. Hoechstohmwiderstaende. (extra high ohm resistances)

(1) Purpose. Used for the construction of measurement devices in high-tension and telecommunications technology.

(2) Technical data. Because of the extreme sensitivity of these resistances in regard to exterior physical and electrical influences, they are melted into glass tubes which are evacuated to ten power minus three (10^{-3}) mm. Hg. The manufacture follows the line of the so-called colloid-coal procedure , i.e. a layer of colloid-coal is precipitated upon a ceramic body and then hardened. These resistances are manufactured in four types with different dimensions for values from ten power ten to ten power twelve (10^{10} to 10^{12}) ohms. The charges for the four types are 700, 800, 950 and 1,100 volts. The maximum ohmic value which WBN can reach with a tolerance of plus or minus 20 percent is ten power thirteen (10^{13}) volts.

25X1

c. Flaechenabsorber-Widerstaende. (zonal absorbtion resistance)

(1) Purpose. Used in UKW (ultra short wave) measurement and telecommunications technology.

(2) Technical data. Manufactured with the aid of the colloid-coal procedure. Colloid-coal is precipitated upon ceramic and upon pertinax bodies. If pertinax is used, the body must not exceed one millimeter in thickness. The resistances are manufactured for ohmic values between 100 and 1,000 ohms per square centimeter. The maximum charge is 0.2 watts per square centimeter for resistances with pertinax bodies and 0.3 watts for resistances with ceramic bodies. These resistances are manufactured in various sizes and shapes.

d. Hochohm-Kleinstwiderstaende. (high ohm small resistors)

(1) Purpose. Used as construction component for smallest devices with small performance where larger types cannot be used due to lack of space.

(2) Technical data. Manufactured with the aid of the colloid-coal procedure. The resistance is provided with a protective layer of lacquer against exterior influences. Types with various sizes and resistance values are manufactured. The values range from 1 to 10 mega-ohms. The 0.1 resistance has the dimensions 12 by 2.4 mm; the 0.5 watt resistance has the dimensions 8 by 2.4 mm.

2. In addition to the special resistances mentioned above, which were being manufactured, WBN was developing a number of special precision resistances.

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